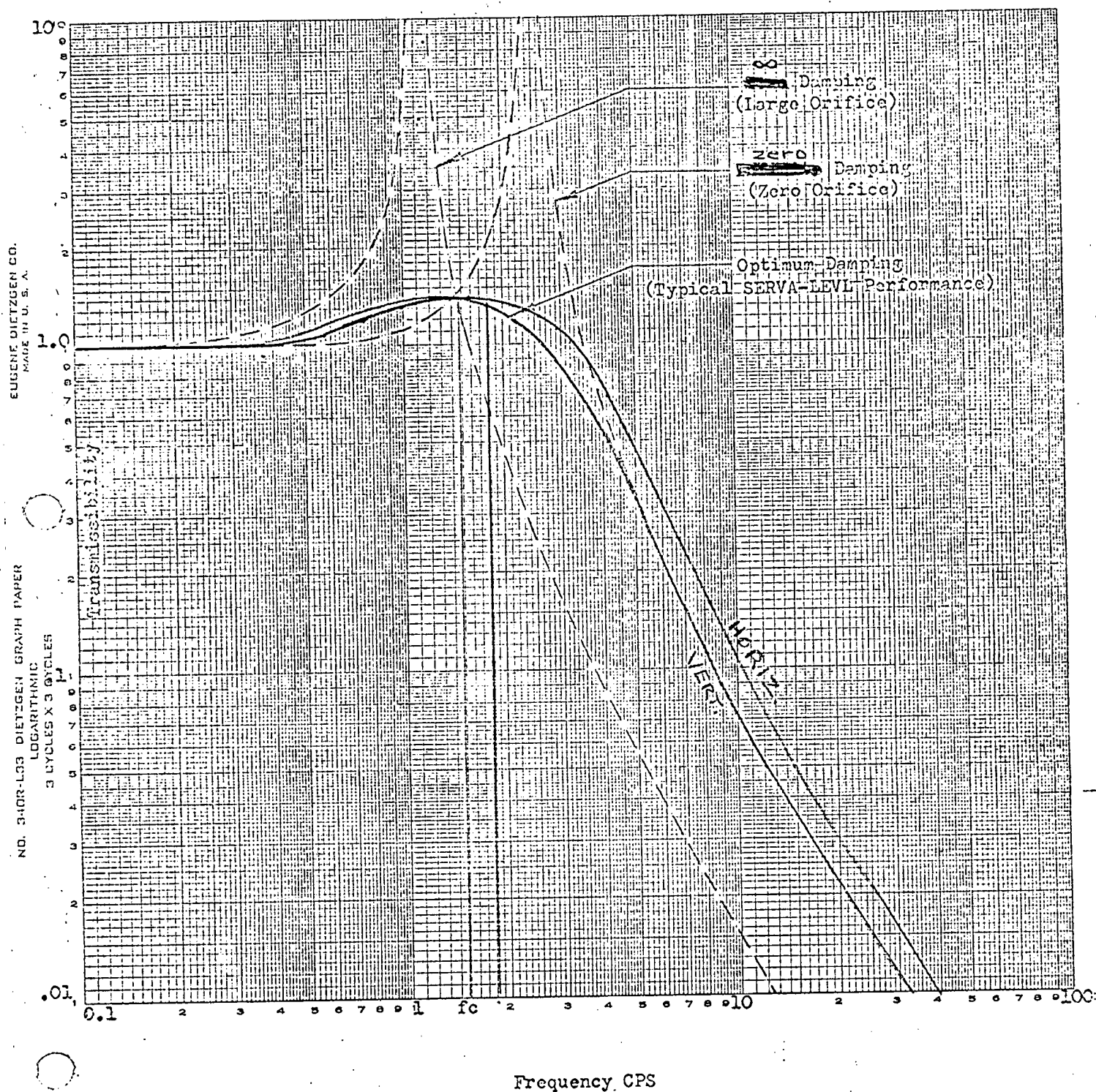


SERVA-LEVEL 1000A

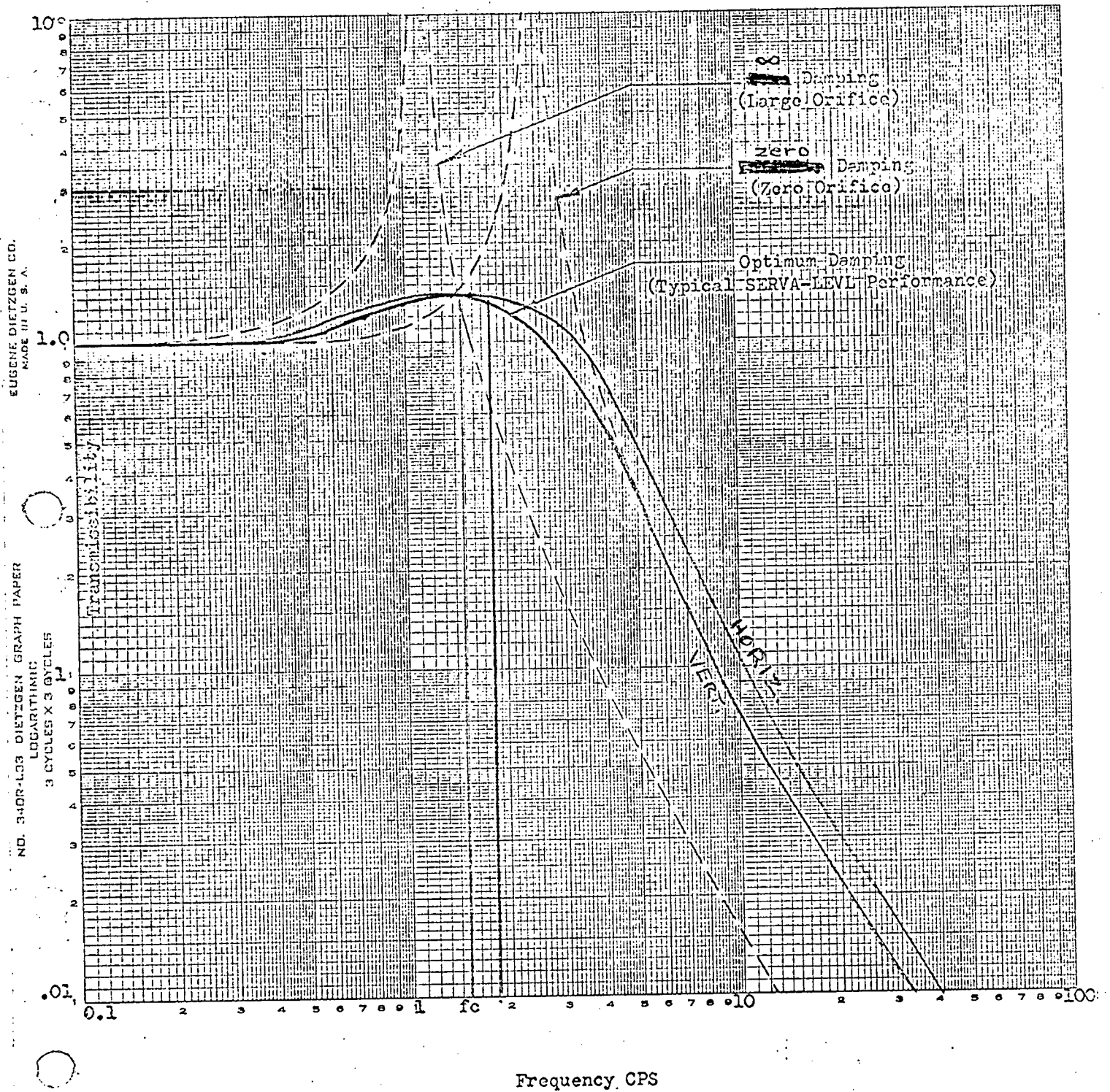
ALXXX-12



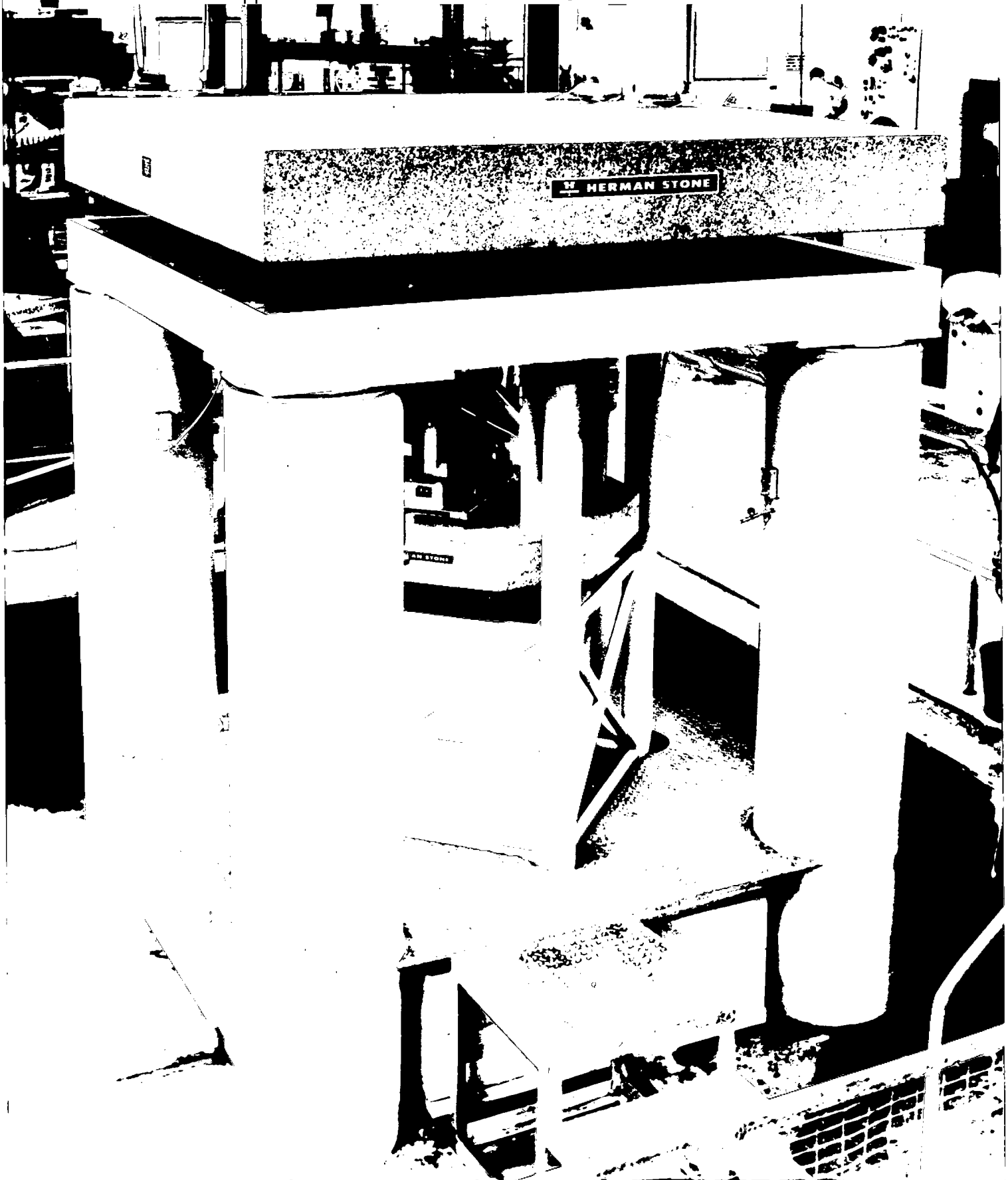
470003A

SERVA-LEVI MOUNT

ALXXX-12

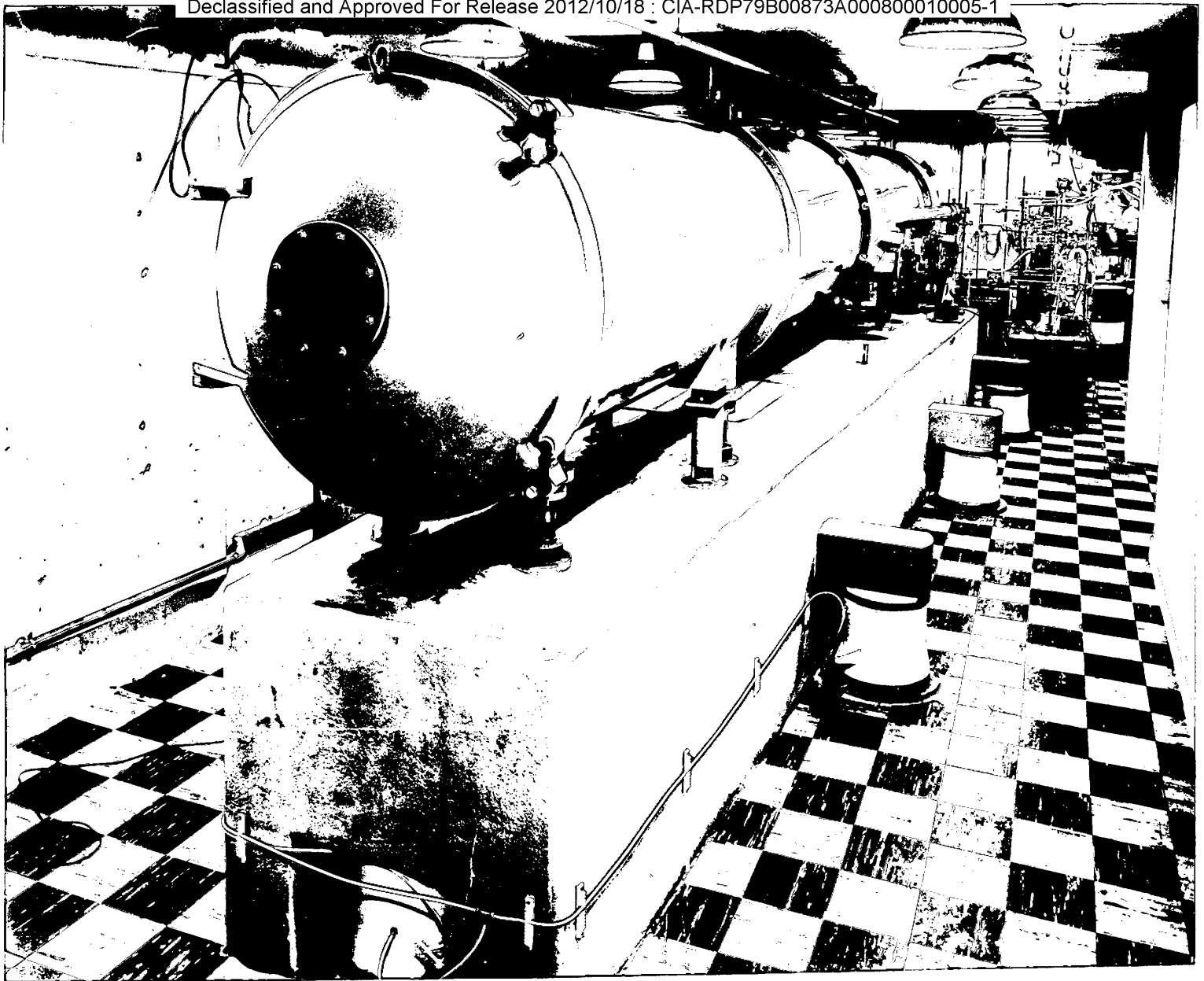


ATC003A

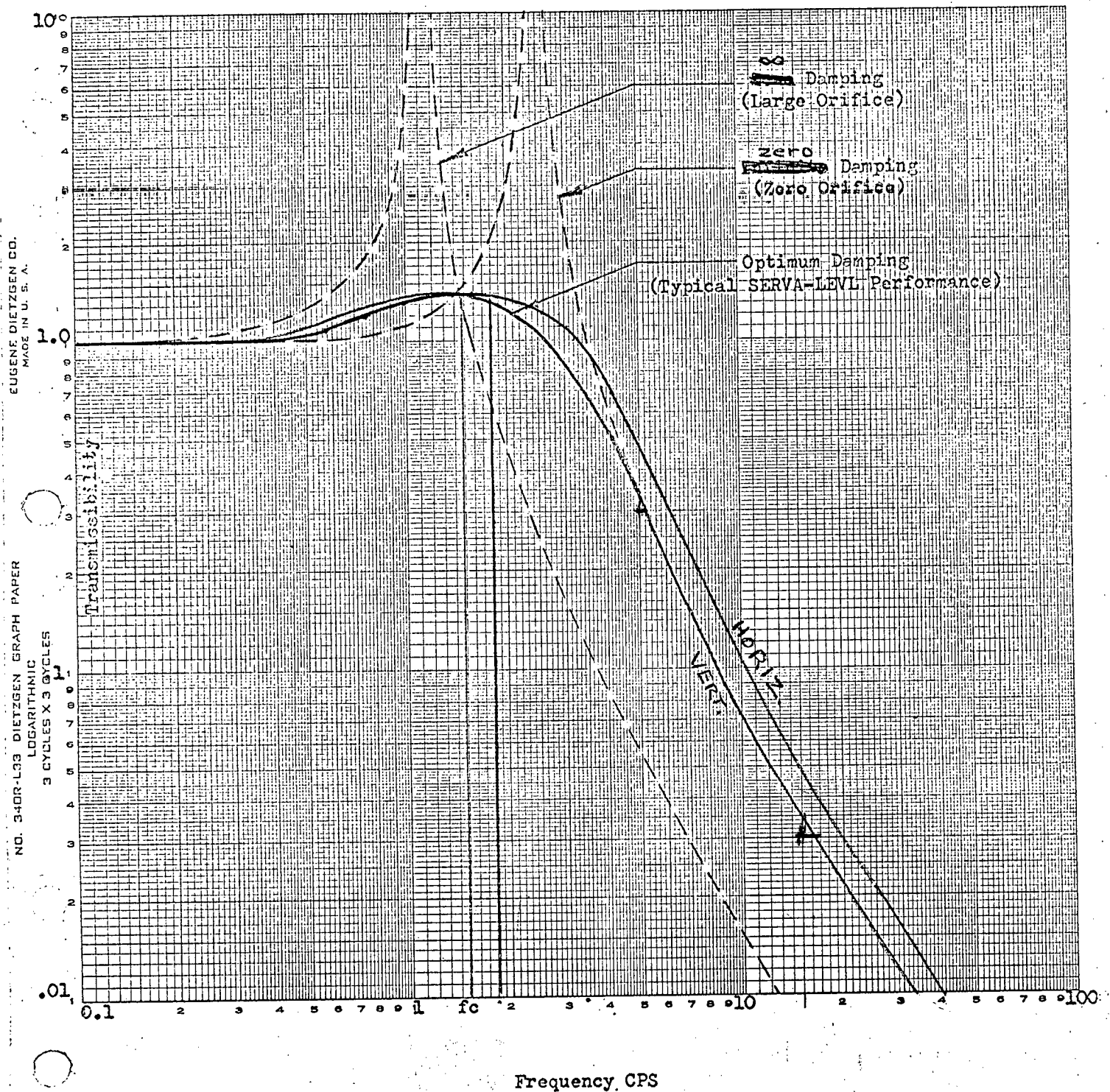


Barry Controls Gravity Reference System to be supplied to Newark Air Force Station, Ohio.

Declassified and Approved For Release 2012/10/18 : CIA-RDP79B00873A000800010005-1



Declassified and Approved For Release 2012/10/18 : CIA-RDP79B00873A000800010005-1



1100031



NEWS RELEASE

UNITED STATES AIR FORCE

AIR FORCE CAMBRIDGE RESEARCH LABORATORIES OFFICE OF AEROSPACE RESEARCH

Rel #7-65-23

FOR RELEASE: A. M., Thursday, 15 July 1965

HIGH RESOLUTION SPECTROGRAPH

A 6.6 meter normal incidence vacuum spectrograph, providing the highest spectral resolution presently obtainable, is now being calibrated and tested at the Air Force Cambridge Research Laboratories, and will soon be placed in operation.

The spectrograph will operate at optical frequencies between 300 Angstroms in the extreme ultraviolet and 12,000 Angstroms in the infrared. The high resolution of the instrument will permit scientists to observe rotational energies heretofore unobservable because of limitations of existing instruments. Spectral lines resulting from absorption and emission of energy by rotating molecules at certain optical wavelengths are used to interpret the structure of various gas elements and to understand their interaction with radiation at given wavelengths. The new equipment will make this interpretation easier by presenting the spectroscopist with greater spectral detail.

L.G. HANSCOM FIELD, BEDFORD, MASS.



- More -
RESEARCH INFORMATION OFFICE
CR4-6100, EXT. 4696 O AREA CODE: 617

Spectrograph.... Cont'd

2

The addition of the new spectrograph to facilities already in use at AFCRL, makes the Laboratories one of the most complete centers in the world for studying the anatomy and behavior of gases found in the upper atmosphere. Other AFCRL spectrographic equipments consist of a one meter and a three meter normal incidence spectrograph, a one and a two meter monochromator, and a 6.8 meter grazing incidence spectrograph.

Spectrograph size is measured in terms of the radius of curvature of the grating -- the basic spectrograph component. The spectrograph is housed in a vacuum tank 25 feet long and three feet in diameter. The entire system consisting of the concrete slab on which the spectrograph rests, the spectrograph itself and its ancillary equipment weighs more than 21 tons. Important to the effectiveness of the spectrograph is its 15-ton slab mount. The mount rests on a system of air cushions which provides a resonance frequency of less than 1 cps. This stability is required for the long term photographic exposure of spectral images. The system is thus relatively free from blurring which can be caused by vibrations from the laboratory building in which the spectrograph is installed.

The system will be used to study the molecular structures of such atmospheric gases as hydrogen, oxygen, carbon dioxide and helium.

-More-

Spectrograph. . . . Cont'd

3

The spectrograph was designed, constructed, and installed by the McPherson Instrument Corporation, Acton, Massachusetts, at a cost of \$70,000. One of three of its kind in this country, it was built to the specifications of AFRL scientists.

###